



486162

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region V

Subject: POLREP #3
Final
U.S. Steel Hexavalent Chrome Release
C5GE
Portage, IN
Latitude: 41.6308094 Longitude: -87.1760551

To: Dan Plath, National Park Service
David Greinke, IDEM
Kenya Johnson, American Water
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Rex Osborn, IDEM
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From: Andrew Maguire & Thomas Mendez, On-Scene Coordinators
Date: 5/24/2017
Reporting Period: Final

1. Introduction

1.1 Background

Site Number:	C5GE	Contract Number:	
D.O. Number:		Action Memo Date:	
Response Authority:	CERCLA	Response Type:	Emergency
Response Lead:	EPA	Incident Category:	Removal Assessment
NPL Status:	Non NPL	Operable Unit:	
Mobilization Date:	4/11/2017	Start Date:	4/11/2017
Demob Date:	4/18/2017	Completion Date:	
CERCLIS ID:		RCRIS ID:	
ERNS No.:		State Notification:	
FPN#:		Reimbursable Account #:	

1.1.1 Incident Category

Emergency Response

1.1.2 Site Description

The incident is a hexavalent chromium release from a US Steel outfall to Burns Waterway, a tributary to Lake Michigan.

1.1.2.1 Location

Outfall 004 at US Steel's Portage plant located at 6300 Highway 12, Portage IN, 46368.

1.1.2.2 Description of Threat

Release of process waste containing hexavalent chromium out of Outfall 004 at US Steel. US Steel preliminary reported that approximately 350lbs of chromium was released during the first 2 days. Hexavalent chromium's most sensitive targets are the respiratory, gastrointestinal, hematological, and reproductive systems for human exposure. Health effects are determined by how much, how long, and the route of exposure.

the NRC, Coast Guard, and the Porter County Sheriff; all production processes were shut down; and additional steps to mitigate the impact are being taken. These steps include the isolation and repair of the damaged pipe, recovery of material, and the addition of a water treatment compound, sodium trithiocarbonate (CNa₂S₃), to the waste water treatment plant to convert and aid in the removal of hexavalent chromium."

1.1.3 Preliminary Removal Assessment/Removal Site Inspection Results

The type of hexavalent chromium released dissolves completely in water. Potentially harmful levels of hexavalent chromium were detected at the outfall and downstream to near the mouth of Burns Waterway to Lake Michigan. Once it reached the outfall it is not feasible to recover it as additional chemicals would have to be added to the water and their toxicity prohibits use in the water body. US Steel has stopped the active release of chromium however residual may continue to be present.

2. Current Activities

2.1 Operations Section

2.1.1 Narrative

US Steel reported a release of an unknown amount of an unknown green substance into Burns Waterway to the NRC(#1175399) at 0933 CDT on 4/11/17. Initially, OSCs Beslow and Mendez along with USCG deployed to the release. Upon arrival US Steel reported the substance to be Hexavalent Chromium. OSC Maguire was dispatched shortly thereafter. USCG demobilized after determining the spill was in EPA jurisdiction, however they issued a boater advisory to steer clear of the area. The advisory was lifted as of 4/13/17.

After the spill was discovered, US Steel stopped operations to their plant. An assessment of the wastewater treatment plants revealed that hexavalent chromium had migrated to a treatment plant that was not equipped to treat it.

2.1.2 Response Actions to Date

On Tuesday, April 11, 2017, U.S. Steel started to treat their wastewater plant with sodium trithiocarbonate (CNa₂S₃). This chemical reduces hexavalent chrome to a less toxic trivalent chrome. U.S. Steel was given permission from IDEM to use this chemical in their treatment to help alleviate the immediate threat. It is being used in limited quantities.

Sampling of both the Burns Waterway and Lake Michigan continued through 4/18/17. Local water utility Indiana American Water in Ogden Dunes shut down their intake on 4/11/17 and reopened on 4/18/17. Out of precaution, the National Park Service had shut down the nearby lakefront and beaches. The four beaches (3 National Park Service and one local (Ogden Dunes)) that were closed reopened on 4/18/17. NOAA and USFWS provided ecological risk numbers as low as 2 ppb and as high as 20 ppb and ATSDR has provided a human health number of 6 ppb. Results of sampling on 4/11/17 indicated potentially harmful levels up to 2231 ppb at the outfall to 15 ppb near the mouth of Burns Waterway. These samples were run at US Steel on site lab and at their contracted lab ALS. EPA was able to collect one sample at the outfall for hexavalent chrome on 4/11/17, the result was 990 ppb.

Summaries of daily activities throughout the response are below:

On April 12th, 2017, U.S. Steel, EPA, and other agencies reconvened on site at 08:00. U.S. Steel and EPA START collected 114 water samples from Lake Michigan and Burns Ditch, both upstream and downstream of Outfall 004, for laboratory analysis of hexavalent chromium and total chromium. U.S. Steel and EPA also collected 14 sediment samples from various local beaches for laboratory analysis of hexavalent chromium and total chromium. U.S. Steel continued monitoring its release from Outfall 004. Sample results for hexavalent chromium were non-detect for all surface water sample points in Lake Michigan and in Burns Waterway. All results were below EPA reporting limits.

On April 13th, 2017, U.S. Steel, EPA, and other agencies reconvened on site at 08:00. U.S. Steel and EPA START collected 152 water samples from Lake Michigan and Burns Ditch, both upstream and downstream of Outfall 004, for laboratory analysis of hexavalent chromium and total chromium. U.S. Steel and EPA also collected 16 sediment samples from the various local beaches within proximity to U.S. Steel for laboratory analysis of hexavalent chromium and total chromium. All results were below EPA reporting limits. EPA held a press briefing just off site with several local and regional news outlets in attendance.

On April 14th, 2017, U.S. Steel, EPA, and other agencies reconvened on site at 08:00. U.S. Steel and EPA START collected 174 water samples from Lake Michigan and Burns Ditch, both upstream and downstream of Outfall 004, for laboratory analysis of hexavalent chromium and total chromium. U.S. Steel and EPA also collected 16 sediment samples from the various local beaches within proximity to U.S. Steel for laboratory analysis of hexavalent chromium and total chromium. All results were below EPA reporting limits. U.S. Steel began a heavily monitored re-start process of their plating operations, and will reintroduce hexavalent chromium to the process line in defined steps through 4/17/17. US Steel and EPA will monitor this process closely.

On April 15th, 2017, U.S. Steel, EPA, and other agencies reconvened on site at 08:00. U.S. Steel and EPA START continued collecting water samples from Lake Michigan and Burns Waterway, both upstream and downstream of Outfall 004, for laboratory analysis of hexavalent chromium and total chromium. U.S. Steel and EPA also collected sediment samples from the various local beaches within proximity to U.S. Steel for laboratory analysis of hexavalent chromium and total chromium. All results were below EPA reporting limits. U.S. Steel and EPA continued monitoring Outfall 004 with a water quality meter.

On April 16th, 2017, U.S. Steel, EPA, and other agencies reconvened at 07:00. US Steel and EPA START continued sampled events from Lake Michigan and the Burns Waterway. All results were below EPA reporting limits. EPA START monitoring water quality parameters both from shore and by small vessel water craft. No unexpected results in water quality parameters were discovered. US Steel continues to phase in their processes, restarting sections of their plant.

On April 17th, 2017, U.S. Steel, EPA, and other agencies reconvened at 09:00. US Steel and EPA START continued sampled events from Lake Michigan and the Burns Waterway. All results were below EPA reporting limits. EPA START monitoring water quality parameters both from shore and by small vessel water craft. At approximately 10:20, US Steel's "Tin Line" process has been restarted and is the first area with chrome utilized in their process to go back online. At approximately 12:00, US Steel's "Chrome Line" process has been restarted.

On April 18th, 2017, U.S. Steel, EPA, and other agencies reconvened at 09:00. US Steel and EPA START continued sampled events from Lake Michigan and the Burns Waterway. EPA START monitoring water quality parameters both from shore and by small vessel water craft. Consistent with the previous data, no new sample data were above reporting and

2.1.3 Enforcement Activities, Identity of Potentially Responsible Parties (PRPs)

US Steel is PRP

2.1.4 Progress Metrics

Regional Metrics

This is an Integrated River Assessment. The numbers should overlap.	Miles of river systems cleaned and/or restored	N/A
	Cubic yards of contaminated sediments removed and/or capped	N/A
	Gallons of oil/water recovered	N/A
	Acres of soil/sediment cleaned up in floodplains and riverbanks	N/A
Stand Alone Assessment	Number of contaminated residential yards cleaned up	N/A
Contaminant(s) of Concern	Number of workers on site	25
	Hexavalent Chromium	

Oil Response Tracking

Estimated volume	Initial amount released	N/A
	Final amount collected	N/A
	FPN Ceiling Amount	N/A
CANAPS Info	FPN Number	N/A
	Body of Water affected	N/A

Administrative and Logistical Factors (Place X where applicable)

Precedent-Setting HQ Consultations (e.g., fracking, asbestos)	x	Community challenges or high involvement	Radiological
More than one PRP		Endangered Species Act / Essential Fish Habitat issues	Explosives
AOC		Historic preservation issues	x Residential impacts
UAO		NPL site	Relocation
DOJ involved		Remote location	x Drinking water impacted
Criminal Investigation Division involved		Extreme weather or abnormal field season	Environmental justice
Tribal consultation or coordination or other issues		Congressional involvement	x High media interest
Statutory Exemption for \$2 Million		Statutory Exemption for 1 Year	Active fire present
Hazmat Entry Conducted – Level A, B or C	x	Incident or Unified Command established	Actual air release (not threatened)

Green Metrics

Metric	Amount	Units
Diesel Fuel Used	N/A	gallons
Unleaded Fuel Used	N/A	gallons
Alternative/E-85 Fuel Used	N/A	gallons
Electricity from electric company	N/A	kWh
Electric Company Name and Account #		
Electricity from sources other than the electric company		kWh
Solid waste reused	0	enter
Solid waste recycled	0	enter
Water Used	0	gallons

Waste Stream	Medium	Quantity	Manifest #	Treatment	Disposal
Hexavalent Chromium	Liquid	298lbs		Natural dilution and water motion	

2.2 Planning Section

2.2.1 Anticipated Activities

Continue long term monitoring at beaches and water intake.

2.2.1.1 Planned Response Activities

2.2.1.2 Next Steps

2.2.2 Issues

Because of the nature of the release and that it is completely dissolved, recovery of the product is not feasible.

2.3 Logistics Section

No information available at this time.

2.4 Finance Section

2.4.1 Narrative

See table below for information

Estimated Costs *

	Budgeted	Total To Date	Remaining	% Remaining
Extramural Costs				
TAT/START	\$300,000.00	\$280,000.00	\$20,000.00	6.67%
Intramural Costs				
Total Site Costs	\$300,000.00	\$280,000.00	\$20,000.00	6.67%

* The above accounting of expenditures is an estimate based on figures known to the OSC at the time this report was written. The OSC does not necessarily receive specific figures on final payments made to any contractor(s). Other financial data which the OSC must rely upon may not be entirely up-to-date. The cost accounting provided in this report does not necessarily represent an exact monetary figure which the government may include in any claim for cost recovery.

2.5 Other Command Staff

2.5.3 Information Officer

Rachel Bassler

3. Participating Entities

3.1 Unified Command

EPA, IDEM, US Steel

3.2 Cooperating Agencies

National Park Service

USFWS

USCG

Indiana American Water

Ogden Dunes Community

City of Portage

4. Personnel On Site

EPA: 2

START: 4

5. Definition of Terms

FPN	Federal Project Number
HASP	Health & Safety Plan
IC	Incident Commander
ICS	Incident Command System
IMT	Incident Management Team
ICP	Incident Command Post
NRC	National Response Center
NPS	National Park Service
OSC	On-Scene Coordinator
POLREP	Pollution Report
SDS	Safety Data Sheet
START	Superfund Technology Assessment and Response Team

6. Additional sources of information

6.1 Internet location of additional information/report

response.epa.gov/USSteelHexavalentChrome

6.2 Reporting Schedule







